



## Problems from 100 Years Ago in the Monthly...

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differently than is usually done. For instance, Proclus' citation of II 10 must refer to the *geometric* configuration of side and diameter, not the arithmetic analogue. Similarly, I have denied that it was Euclid's *intent* in II 10 to establish an arithmetic property (not even stated by Euclid) relating to the "side and diameter" numbers. Instead, I take this diagram, along with its companions in Book II and elsewhere, as forming a body of solutions of geometric problems of the quadratic type, for which a clear precedent can be seen in the much older Babylonian tablets. Whether one might wish to infer an explicit transmission from the Mesopotamian tradition to the Greek is currently debated.

The resulting view almost exactly reverses the standard account: for the "side and diameter" rule, usually taken to be an accommodation to the incommensurability (that is, to produce ever more accurate approximations to the ratio of the side and diameter of the square), I now present as a sibling of the concept of the incommensurable, present at its birth, and child of the same parents, the figures of Euclid's II 9–10.

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**WILBUR KNORR** presented the contents of this article at the January 1997 meeting of the American Mathematical Society in San Diego, and had hoped, up to very shortly before his death from cancer on March 18, to present them also to a meeting at the University of Warwick, England in April 1997. He did not have the opportunity to edit this paper, but we believe that he would have approved the very few minor stylistic changes we have made in the text. He also left a draft of a fuller version of this article, which, we hope, will eventually appear in a specialist journal. An obituary and bibliography of his publications will appear in *Historia Mathematica*.

David Fowler and Henry Mendell

#### Problems from 100 years ago in the MONTHLY...

**95.** Proposed by WALTER HUGH DRANE, A.M., Professor of Mathematics, Jefferson Military College, Washington, Miss.

Solve by arithmetic, if possible.

A man sold a house for \$7500 and gained a certain per cent. on the cost. If the cost had been  $16\frac{2}{3}\%$  less, his gain would have been 25% greater. Find the cost of the house.

**96.** Proposed by RAYMOND SMITH, Tiffin, Ohio.

How many acres in a square field whose diagonal is 10 rods longer than the side?

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